AMENDMENTS TO THE DRAWINGS

Attached are three drawing sheets showing the changes made to Figs. 1, 2, and 3, and three replacement sheets for review and approval by the Examiner.

Attachment: 3 Annotated Sheets Showing Changes Made

3 Replacement Sheets

REMARKS

This amendment responds to the final Office Action mailed October 28, 2008, and is submitted with a Request for Continued Examination, as discussed with the Examiner, Richard R. Green, on February 18, 2009. Claims 1-24 remain pending in the application prior to this amendment and stand rejected. Claims 1, 2, 4-20, and 22-24 have been amended, claim 3 has been cancelled, and new claim 25 has been added. Applicants respectfully request reconsideration in view of the amendments and these remarks.

Objections to Previous Amendments

The Amendment filed July 16, 2008, was objected to for allegedly introducing new matter into the disclosure. Applicants respond that each of the additions to the Specification are supported by the original Specification, illustrated as follows:

The Office Action objected to the proposed addition of "[f]igure 1 shows feed lines 33 and 35, respectively, for connecting the first and second hollow chambers 26, 32 to the engine for receiving hot bleed air." Applicants respectfully traverse this objection. The added text is supported by the original Specification at paragraph 0016, which states "[a]lternatively, hot engine bleed air can be mixed at several points with the warm waste air originating from the cooling of electronic equipment in the aircraft, e.g., before the waste air enters into the first hollow chambers and moreover, once again before the waste air enters into the second hollow chambers." Furthermore, the added text is supported by the original Specification at paragraph 0009 and also at paragraph

0015 ("an additional feed line is provided which connects the first hollow chambers with hot engine bleed air"). Moreover, the text added is supported by original claims 6 and 7. Because subject matter disclosed in any part of the application may be added to other parts of the application, Applicants assert that no new matter is added. For at least these reasons, Applicants respectfully request that this objection be withdrawn.

The Office Action also objected to the proposed addition of "[i]f desired, as shown schematically in FIG. 3, a ventilator 39 may be used to generate a forced flow through the first hollow ventilator 26." Applicants respectfully traverse this objection. The added text is supported at paragraph 0011, which states "a forced flow is generated in the panels of the floor or the cargo hold door, for example by means of ventilators or similar." Additionally, this added line in the Specification has been currently amended to correct the name of item 26. For at least these reasons, Applicants respectfully request that this objection be withdrawn.

The Office Action objected to the addition of feed lines (33, 35) in FIG. 1 because the arrows drawn extended from the floor and cargo door to the engine. The arrows have now been amended in the replacement drawing sheets to indicate the proper direction of flow of hot engine bleed air. As discussed previously, these features are supported in the original Specification. For at least these reasons, Applicants respectfully request that this objection be withdrawn.

The Office Action further objected to the addition of reference numeral 43 to reference heating mats in FIG. 2. FIG. 2 in the replacement drawing sheets has been amended to clearly distinguish the rigid insulation (40) and the heating mats (43). The

placement of the heating mats was supported in the original Specification at paragraph 0018, which states "[t]his additional electric heating can be provided, for example, by means of conventional electric heating mats which are positioned on the upper side and/or the lower side of the panels which make up the floor." For at least these reasons, Applicants respectfully request that this objection be withdrawn.

The Office Action objected to the addition of ventilator (39) in FIG. 3. To dispel any confusion regarding the schematic representation of the ventilator, FIGS. 2 and 3 have been amended in the replacement drawing sheets to remove the arrowheads. Additionally, the ventilator (39) has been positioned behind the direction of flow through the hollow chambers (26) in amended FIG. 2. For at least these reasons, Applicants respectfully request that this objection be withdrawn.

Objections to Drawings

The Office Action contained objections to the drawings for allegedly failing to show every feature specified in the claims, as well as allegedly failing to comply with MPEP rules. Although some of the specified features were previously illustrated in the figures, Applicants have amended FIGS. 1-3 on the replacement drawing sheets to overcome these objections. Furthermore, Applicants have updated FIGS.1-3 to comply with all MPEP requirements. For at least these reasons, Applicants respectfully request that the objections to the drawings be withdrawn.

Objections to the Claims

Claim 15 was objected to with respect to the recitation of "by extrusion, in particular by continuous extrusion." Claim 15 has been amended to read "by continuous extrusion," as suggested by the Examiner. Applicants respectfully request that this objection be withdrawn.

Claims Rejected Under 35 U.S.C. §112

Claims 1-15 and 22 stand rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement. Claims 1-15 stand rejected under 35 U.S.C. §112 for allegedly failing to comply with the enablement requirement and for being indefinite. Specifically, claim 1 was rejected with respect to the recitation, "wherein each chamber has a first end, a second end, and is enclosed therebetween." Claim 1 has been amended to delete the language at issue, and Applicants respectfully request that these rejections of claim 1 be withdrawn.

Claim 7 was rejected with respect to the recitation, "a second bleed air feed line operatively connecting the second hollow chambers to a second supply of hot bleed air from the engine of the aircraft." However, the original Specification does support this second bleed air feed line at paragraph 0009, which recites "waste air which originates from the cooling of electronic equipment in the aircraft is mixed with hot engine bleed air at two points, one before the waste air is used to heat the floor, and the other before the waste air is used to heat the cargo hold door." Furthermore, paragraph 0013 recites "second hollow chambers which are provided in floor panels of the aircraft cargo door."

For at least these reasons, Applicants respectfully request that this rejection of claim 7 be withdrawn.

Claim 12 was rejected with respect to the recitation, "electric heating coils and/or wires." Claim 12 has been amended to read "electric heating coils or wires." As the Examiner correctly noted on Page 8 of the Office Action, support for these claimed features is present at paragraph 0019 of the original Specification. Applicants respectfully request that this rejection of claim 12 be withdrawn.

Claim 22 was rejected with respect to the recitation, "mixing hot bleed air into from the engine with the warm waste air." Claim 22 has been amended to delete the word "into," as suggested by the Examiner. As the Examiner noted, there is support for mixing hot bleed air with the warm waste air, and accordingly, Applicants respectfully request that this rejection of claim 22 be withdrawn.

For at least the reasons discussed above, Applicants respectfully request that the rejections of claims 1-15 and 22 under 35 U.S.C. §112 be withdrawn.

Claims Rejected Under 35 U.S.C. §102

Claims 1, 2, 9, 14, and 15 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,799,481 to Becker. Claim 1 has been amended to recite:

> Aircraft floor heating comprising:
>
> an aircraft;
>
> an avionics bay within the aircraft and containing electronic equipment;

> a floor within the aircraft made up of heatable panels defining a plurality of first hollow chambers formed integrally with the panels and wherein each chamber has a first end and a second end; and
>
> a feed line operatively connected to the first ends of the first hollow chambers and providing fluid communication between the avionics bay and the first ends of the first hollow chambers, the feed line supplying warm waste air to the hollow chambers, the warm waste air originating from the cooling of the electronic equipment contained in the avionics bay.

Becker '481 is directed to a unit for heating the floor of a house trailer, truck trailer, or automobile. Becker '481 does not disclose an aircraft or an avionics bay within the aircraft, or a feed line operatively connected to the first hollow chambers and supplying warm waste air originating in the avionics bay, as set forth in claim 1. Thus, Becker '481 fails to disclose all the elements of claim 1, and Applicants respectfully request that the rejection of claim 1 in view of Becker '481 be withdrawn.

Each of claims 2, 9, 14, and 15 depend from independent claim 1 and are in condition for allowance for at least the reasons discussed with respect to claim 1. Therefore, Applicants respectfully request that the rejections of claims 2, 9, 14, and 15 based on Becker '481 also be withdrawn.

Claims 1, 2, 6, and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,203,473 to Goode. Claim 1 is the only independent claim of this rejected group and has been amended as discussed above. Applicants respectfully assert that amended claim 1 is in condition for allowance because Goode '473 fails to disclose each and every element recited in claim 1. Specifically, Goode

'473 is directed to an aircraft heating system wherein hot bleed air from the engines is supplied to a hollow space 16 under a floor 14. The hollow space 16 allows air flow into the cabin through side vents 21 located down the length of the aircraft (Goode '473 at Col. 2, lines 30-34). Accordingly, Goode '473 fails to disclose a feed line providing fluid communication between an avionics bay and the first ends of first hollow chambers formed integrally with floor panels, as set forth in amended claim 1. For at least these reasons, Applicants respectfully request that the rejection of claim 1 with respect to Goode '473 be withdrawn.

Each of claims 2, 6, and 13 depend from independent claim 1 and are in condition for allowance for at least the reasons discussed with respect to claim 1. Accordingly, Applicants respectfully request that the rejections of claims 2, 6, and 13 based on Goode '473 also be withdrawn.

Claims Rejected Under 35 U.S.C. §103

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Becker '481 in view of U.S. Patent No. 5,701,755 to Severson. Claim 3 has been cancelled and the subject matter of claim 3 has been added to claim 1. Accordingly, this rejection of claims 3 is rendered moot.

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,311,106 to Dupont in view of Becker '481. Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dupont '106 in view of Becker '481, Goode '473, and U.S. Patent No. 3,981,466 to Shah. Claims 10-12 stand

rejected under 35 U.S.C. §103(a) as being unpatentable over Becker '481 in view of U.S. Patent No. 4,733,057 to Stanzel and Goode '473. Claims 4, 5, 7, 8, and 10-12 each depend from amended claim 1. Applicants respectfully traverse the rejections of these claims because Dupont '106 and Becker '481 fail to disclose each and every element recited in claim 1, and Goode '473, Shah '466, and Stanzel '057 fail to cure these deficiencies. Specifically, Becker '481 fails to disclose an aircraft with an avionics bay or a feed line providing fluid communication between the avionics bay and the first ends of first hollow chambers formed integrally with floor panels, as discussed above.

Dupont '106 is directed to a system that determines appropriate engine power required based on the measured weight of cargo held by an aircraft. Dupont '106 refers to electronic equipment in the aircraft and a cargo door, but these elements are discussed in connection with the power-determining system. Dupont '106 does not disclose any system or method for warming an aircraft or cooling the electronic equipment, particularly a feed line providing fluid communication between an avionics bay and the first ends of first hollow chambers formed integrally with floor panels.

Goode '473 is directed to an aircraft heating system utilizing bleed air from the engines, but fails to disclose an avionics bay or a feed line providing fluid communication between the avionics bay and the first ends of first hollow chambers formed integrally with floor panels, as discussed above. Shah '466 is directed to an anti-icing system for aircraft, and Stanzel '057 is directed to a system for heating walls, floors, and ceilings using electrically resistive elements. However, Shah '466 and Stanzel '057 each fail to disclose an avionics bay in an aircraft or a feed line providing

fluid communication between the avionics bay and the first ends of first hollow chambers formed integrally with floor panels. For at least the reasons discussed above, claims 4, 5, 7, 8, and 10-12 are in condition for allowance, and Applicants respectfully request that the rejections of these claims also be withdrawn.

Claims 16-20 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dupont '106 in view of Becker '481 and Severson '755. Claim 16 is the only independent claim of this rejected group and is directed to a method of heating the floor of an aircraft. Claim 16 has been amended to recite:

> conveying warm waste air through a first plurality of hollow chambers extending through the panels forming the floor, the warm waste air having originated from the cooling of electronic equipment of the aircraft; and
>
> maintaining fluid isolation between the warm waste air and air in a cabin of the aircraft.

Support for this amendment to claim 16 can be found with reference to the original Specification at paragraph 0037, which discloses that "[a]t the end of the second hollow chambers 32 the now cooled down air flows out into the aircraft fuselage 10 [or] can be conveyed to the outside in a controlled manner." Applicants assert that amended claim 16 is in condition for allowance because the combination of Dupont '106 and Becker '481 fails to disclose each and every element recited in claim 16, and the further combination with Severson '755 fails to cure these deficiencies. Specifically, the Examiner admits that the combination of Dupont '106 and Becker '481 fails to disclose conveying warm waste air originating from cooling electronic equipment through hollow

chambers of floor panels to heat an aircraft floor. (See Final Office Action at p. 17.) The Examiner looks to Severson '755 to cure this deficiency.

Applicants note, however, that Severson '755 is directed to a system for cooling electronic heat loads and an aircraft cabin. Specifically, Severson '755 provides cooled air to the cabin to lower the temperature of the cabin; not to heat the cabin. With reference to FIG. 2, Severson '755 states that:

> Because the expanded exhaust air 60 is at a much lower temperature after being expanded in the turbine 16 [than] before, it is possible to lower the temperature of the recirculated cabin air from what would conventionally be the case; and that is what occurs within the heat exchanger 60. As a result, an increased temperature differential may be achieved when this now cooled recirculated air is first passed to the low temperature load 38. Heat rejected by the low temperature load to the recirculated cabin air will frequently be sufficient so that, when mixed with incoming fresh air provided by the ECS 42, the recirculated cabin air will be at adequate and proper temperature for conditioning of the cabin 10.
>
> After conditioning the cabin 10, the combined recirculating air and fresh air stream passes to the high temperature load 40 whereat it cools the same before being passed to the flow controller 66 so that the cycle may continue. (Emphasis added.)

(Severson '755 at col. 4, lines 16-33.)

Accordingly, the system disclosed in Severson '755 circulates cold air through the successively higher temperature areas (low temperature loads 38, cabin 10, and high temperature loads 40) to cool these areas of the aircraft. Because Severson '755 discloses a system that cools aircraft cabin air, even if Severson '755 were combined with Dupont '106 and Becker '481, the resulting system would not convey warm waste

air to heat a floor of an aircraft, as set forth in amended claim 16. For at least these reasons, Applicants respectfully request that the rejection of claim 16 be withdrawn.

Claims 17-20 and 24 each depend from independent claim 16 and are in condition for allowance for at least the same reasons discussed above for claim 16. Accordingly, Applicants respectfully request that the rejections of claims 17-20 and 24 also be withdrawn.

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Dupont '106, Becker '481, and Severson '755, in further view of U.S. Patent No. 6,058,725 to Monfraix. Claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Dupont '106, Becker '481, and Severson '755, in further view of Monfraix '725 and Shah '466. Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Dupont '106, Becker '481, and Severson '755, in further view of Stanzel '057 and Goode '473. Claims 21-23 each depend from independent claim 16 and are in condition for allowance for at least the same reasons discussed above for claim 16, and because Monfraix '725, Shah '466, Stanzel '057, and Goode '473 fail to cure the deficiencies discussed above.

Monfraix '725 is directed to bleeding hot air from an aircraft engine, and Goode '473 is directed to an aircraft heating system wherein hot bleed air from the engines is supplied to a hollow space under a floor. Shah '466 is directed to an anti-icing system for aircraft, and Stanzel '057 is directed to heating walls, floors, and ceilings using electrically resistive elements. None of these references discloses conveying warm waste air originating from cooling electronic equipment through hollow chambers of floor

panels to heat an aircraft floor. For at least these reasons, claims 21-23 are in condition for allowance, and Applicants respectfully request that the rejections of claims 21-23 also be withdrawn.

New Claim

New claim 25 has been added and depends from claim 16. Claim 25 further recites "directing air from the first hollow chambers into the cabin or outside the aircraft after the warm waste air has cooled." Claim 25 is supported by the original specification at paragraph 0037, which discloses that "[a]t the end of the second hollow chambers 32 the now cooled down air flows out into the aircraft fuselage 10 [or] can be conveyed to the outside in a controlled manner." Claim 25 is in condition for allowance for at least the reasons discussed above with respect to claim 16, and Applicants respectfully request early and favorable indication of allowance.

Conclusion

In view of the amendments to the claims and these remarks, Applicants believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any issue requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Applicants do not believe that any fee is due in connection with this submission other than the fee of $130 for a one-month extension of time. However, if any additional fees are necessary to complete this communication, the Commissioner may consider this to be a request for such and charge any necessary fees to Deposit Account No. 23-3000.

Respectfully submitted,
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Annotated Sheet
Showing changes

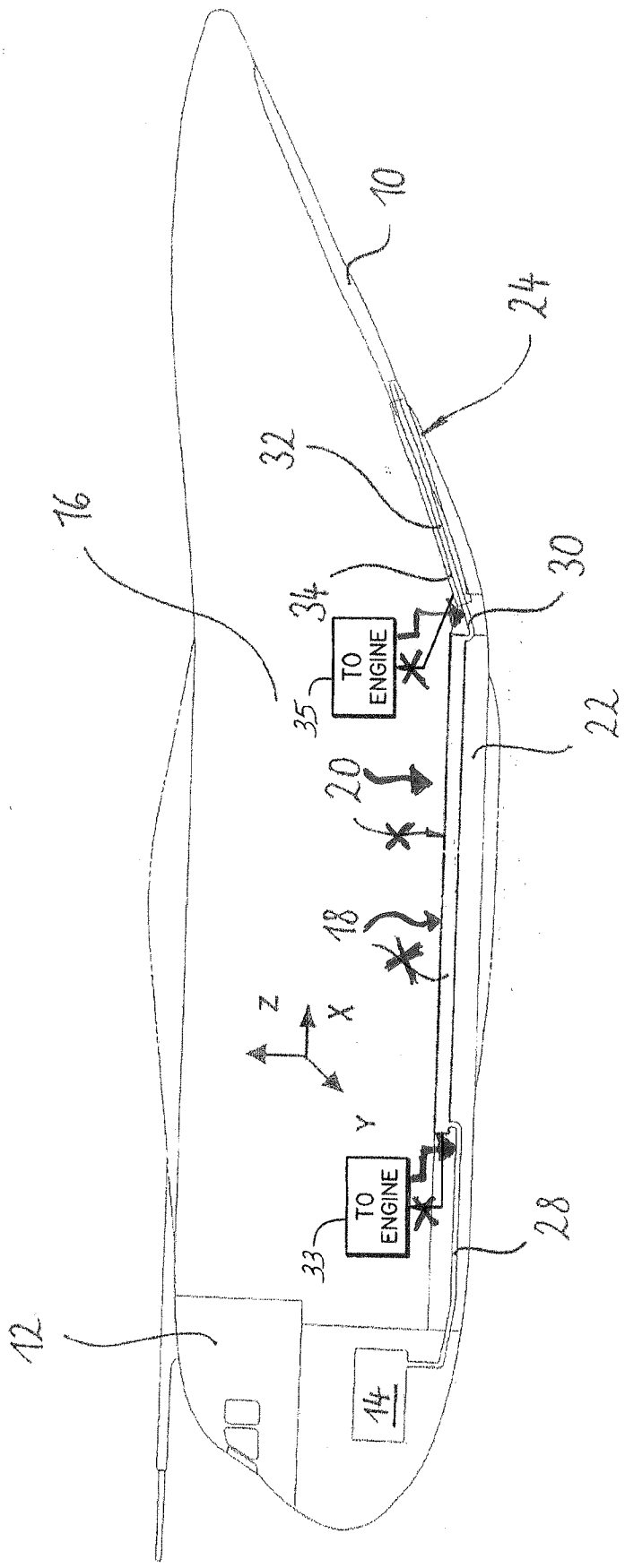

Fig. 1

Annotated Sheet
Showing changes

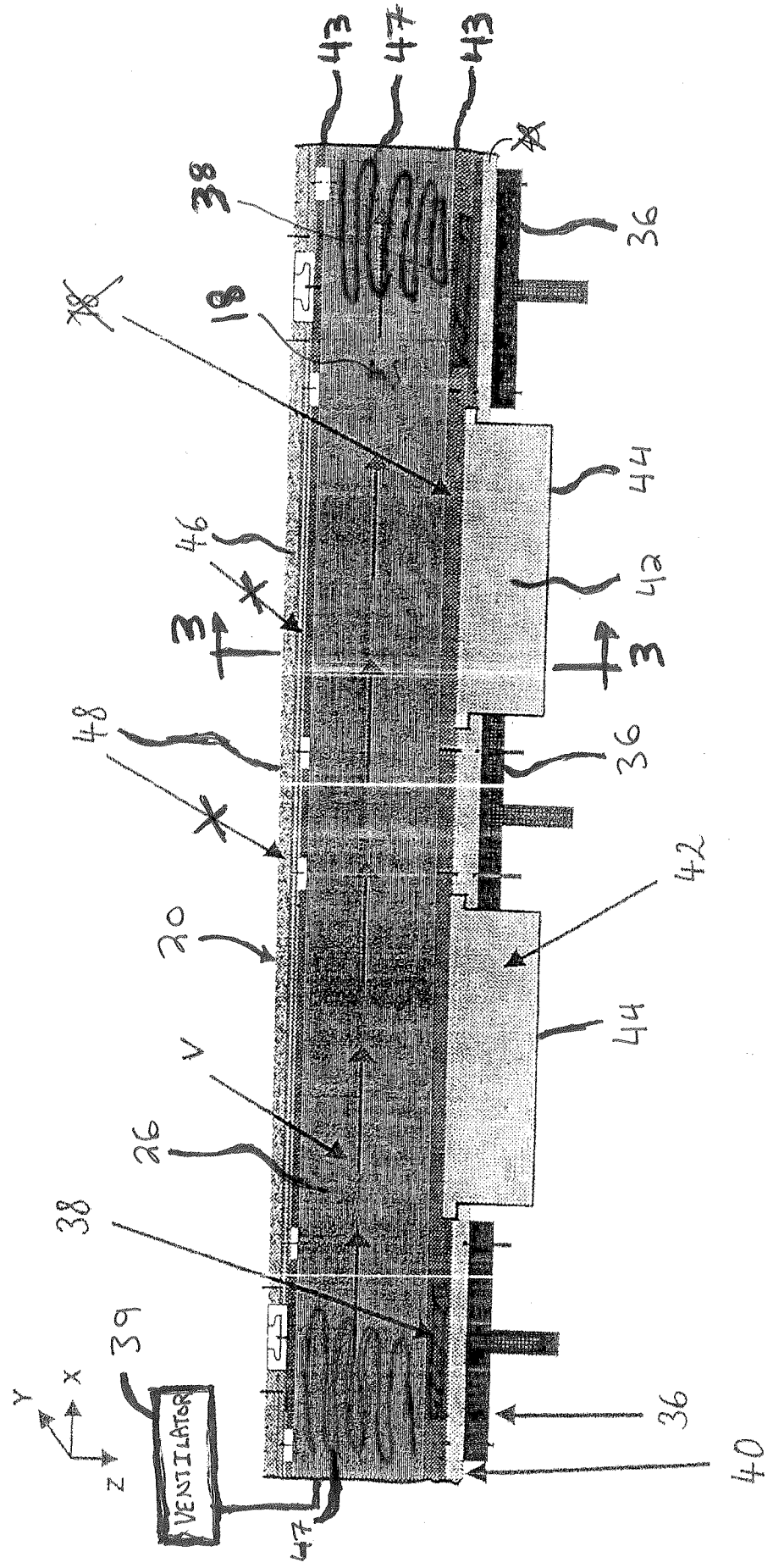

Fig. 2

Annotated Sheet
Showing Changes

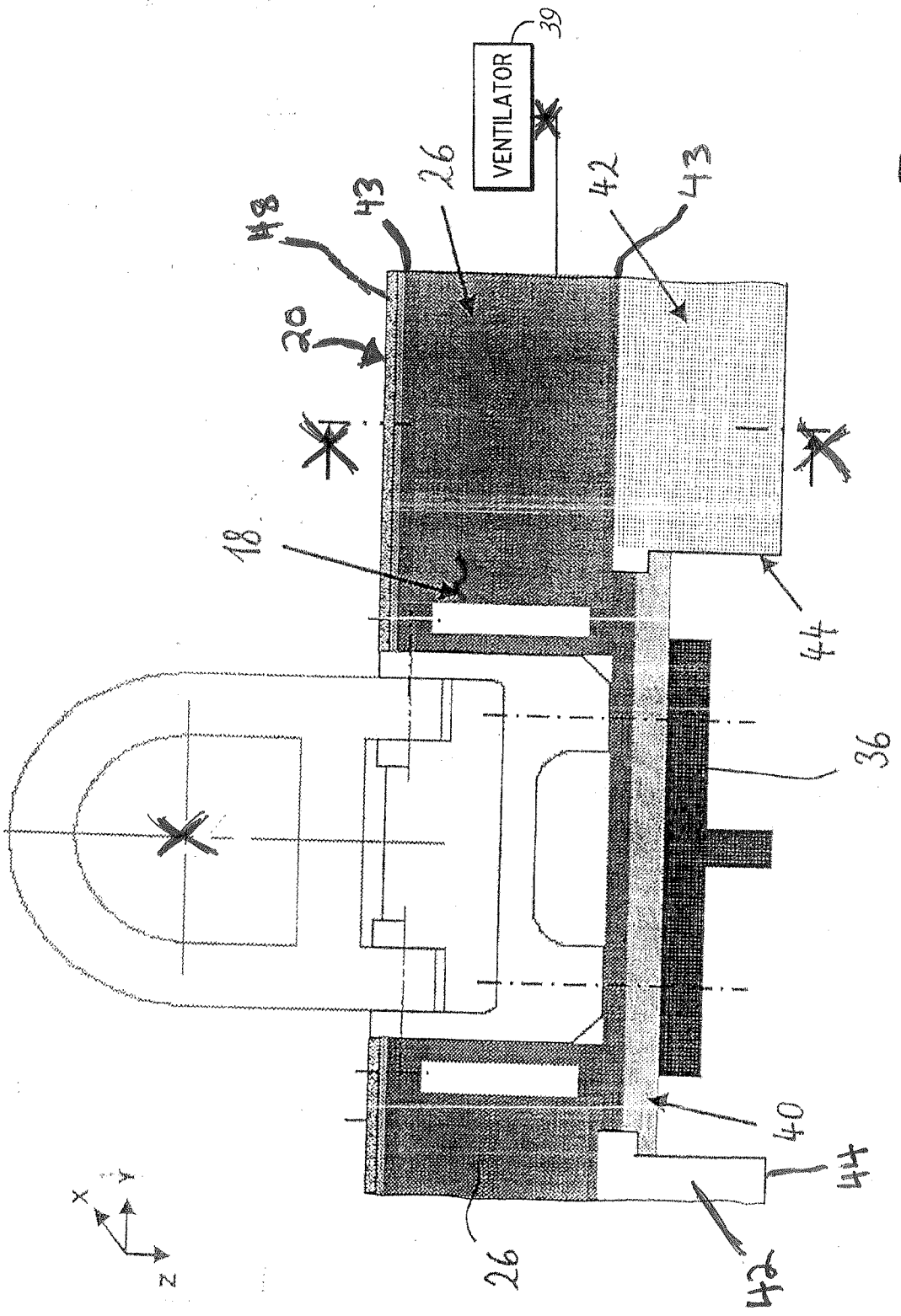

Fig. 3